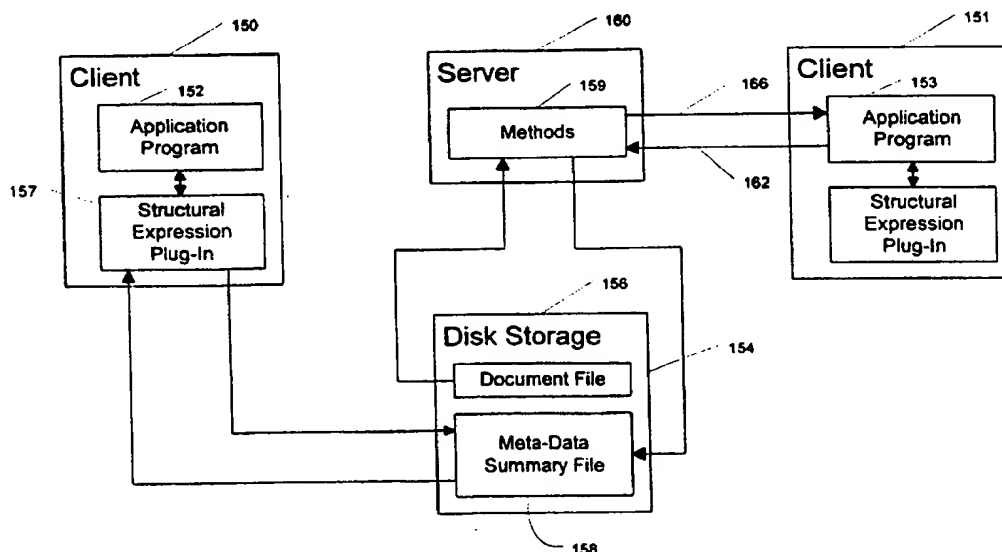




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(54) Title: DESCRIBING DOCUMENTS AND EXPRESSING DOCUMENT STRUCTURE



(57) Abstract

Apparatus and methods of revealing the hierarchical structure of a document having content of a characteristic type of content are described (100). The hierarchical structure may be expressed, independently of document content type, as a tree structure of one or more nodes (126). A semantic representation for interpreting the tree structure may also be provided, document description files are used to encapsulate structural and meta information associated with a document stored on a computer-readable medium (156). Document description files are external to native application files and have a set of required fields. Document description files point to the referenced document data using uniform resource locators (URLS) and serve as virtual documents. In addition to the required fields, applications can choose to encode additional structural information in the document description files.